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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)
35015/045US

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on November 6, 2007

Signature Jocelyn Olson

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Application Number	Filed
10/531,845	11/21/2005

First Named Inventor
Kees C J M N Brekelmans

Art Unit	Examiner
2856	Samir M Shah

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

- ☐ applicant/inventor.
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  See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
  (Form PTO/SB/96)
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Practitioner's Docket No. 35015/045US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Kees C J M N Brekelmans, et al.	
Application No.:	10/531,845	Group No.: 2856
Filed:	11/21/2005	Examiner: Samir M. Shah

For: METHOD AND DEVICE FOR DETERMING A CHARACTERISTIC VALUE THAT IS REPRESENTATIVE OF A CONDITION OF THE GAS

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Commissioner for Patents
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REMARKS ACCOMPANYING PRE-APPEAL BRIEF REQUEST FOR REVIEW

These remarks accompany a notice of appeal and a pre-appeal brief request for review. Please enter the remarks as set forth below.

REMARKS

A. The 35 U.S.C. § 102(b) of claims 1-4, 6, 9, 11-13, 21, 22, 24, 31, 33, and 38 as being anticipated by Breedlove should be withdrawn.

Claim 1 relates to a device for the characterization of a flowing substance, comprising "means to determine a temperature difference in the flowing substance upstream and downstream of the heating or cooling element". Claim 21 relates to a method for the characterization of a flowing substance, comprising "determining a temperature difference in the flowing substance upstream and downstream of the heating or cooling element". Accordingly, in both claim 1 and claim 21, there is a flowing substance and a temperature difference of this flowing substance is determined both upstream of a heating or cooling element and downstream of a heating or cooling element.

In contrast, Breedlove measures a temperature difference between two different substances. In particular, in Breedlove, a measurement of the "total heat rise between air-gas inputs prior to combustion and the heated exhaust products" occurs. Breedlove, Col. 2, ll. 55-59. Breedlove teaches that the "[c]alorimeter burns the combustible gas in an oxygen rich environment that fully oxidizes the sample gas. Breedlove, Col. 2, ll. 12-22. Thus, in Breedlove, the thermocoupler 14 measures the temperature of one substance, i.e. a sample gas/air mixture, and the thermocoupler 13 measures the temperature of another substance, i.e. the combustion gases generated via the full oxidation of the sample gas.

Furthermore, claim 1 further recites "evaluation means (70) for evaluating a characterising feature of the flowing substance" and claim 21 further recites "evaluating a characterizing feature of the flowing substance". Clearly, the term flowing substance in the preceding evaluating recitations must be the same flowing substance for which a temperature difference is determined upstream and downstream of the heating or cooling element. Indeed the principal of antecedent bases requires that the phrases "a flowing substance" and "the flowing substance" recited in claims 1 and 21 be construed as being the same flowing substance. Therefore, the flowing substance that is evaluated in claims 1 and 21 is the same substance that has its temperature determined upstream and downstream of the heating or cooling element.

With the foregoing in mind, according to the Examiner, the Wobbe index of Breedlove corresponds to "evaluation means (70) for evaluating a characterising feature of the flowing substance" as recited in claim 1 and "evaluating a characterizing feature of the flowing substance" as recited in claim 21. However, the Wobbe index is used to determine the

thermal delivery of the sample gas in Breedlove. Breedlove, Col. 4, ln. 49 – Col. 5, ln. 10. As pointed out above, however, the temperature of the sample gas of Breedlove is not measured by the thermocoupler 14, since it is entirely consumed in the combustion process.

Although the Examiner asserts in the advisory action that "[a]lthough, combustion modifies the chemical composition of the input products, somewhat, the exhaust products still comprise the input products", this statement is clearly not supported by the teaching of Breedlove. In particular, Breedlove unequivocally teaches that there is no sample gas in the combustion product measured downstream of the combustion process. See Breedlove, Col. 2, ll.12-22 (teaching that full oxidation of the sample gas occurs in the combustion process). Furthermore, with respect to the Examiner's contention that "claim 1 does not recite that 'the flowing substance' cannot undergo a change in its composition", Applicant submits that under any reasonable interpretation of claims 1 and 21 that, at least some sample gas would need to be included in the combustion gases for Breedlove to constitute an anticipatory reference. This plainly is not the case, since, in Breedlove, all the sample gas is consumed in the combustion process and a temperature difference of the sample gas is not determined.

Applicants submit that it is not reasonable or appropriate for, on one hand, the Examiner to construe the term flowing substance as being the sample gas of Breedlove, for purposes of contending that the evaluation means in claim 1 and evaluating step of claim 21 are anticipated by Breedlove, and, then, on the other hand, to construe the term flowing substance as being the combustion gasses of Breedlove which include no sample gas whatsoever, for purposes of contending that the temperature difference recitations in claims 1 and 21 are anticipated by Breedlove..

Furthermore, in the response to the Final Office Action, Applicants clearly demonstrated that Breedlove does not teach or suggest an evaluation means or evaluating a characterizing feature of the flowing substance in the manner recited in claims 1 and 21. Applicants point out that the advisory action failed to response to any of the arguments Applicant presented on this issue. Accordingly, Applicants hereby reassert these arguments for purposes of demonstrating that the Examiner has clearly erred in his understanding that an absolute temperature has to be measured on one or more calibration substances since absolute temperature, by definition, is temperature measured relative to absolute zero. It is rudimentary scientific knowledge that absolute temperature is a temperature measurement that is expressed in Kelvins, and, just like temperatures measured in °F or °C, a temperature

expressed in Kelvins does not require the use of a calibration substance, as the Examiner contends.

Moreover, in the response to the Final Office Action, Applicants clearly demonstrated that Breedlove fails to teach "a function relating temperature differences measured on one or more calibration substances to one or more characterising features of the flowing substance" as recited in claim 1 and "the measured temperature difference with corresponding temperature differences measured on one or more calibration substances for evaluating a characterising feature of the flowing substance" as recited in claim 21. Again, Applicants point out that the advisory action failed to response to any of the arguments Applicant presented on this issue. Accordingly, Applicants hereby reassert these arguments for purposes of demonstrating that the Examiner has clearly erred. In particular, Breedlove teaches that a characterizing feature, i.e. energy expressed in B.t.u per pound or cubic foot, of an unknown sample gas, can be determined by a function relating energy, and not temperature differences, measured on one or more calibration substances. See, Breedlove, Col. 4, ln. 74 – Col. 5, ln. 10. Indeed, Breedlove explicitly teaches that " the B.t.u. per pound value of the sample gas can be read on a suitably calibrated scale or chart. Breedlove, Col. 5, ln. 78-10.

B. Nukui in combination with Breedlove and/or Foster fails to teach or suggest all the elements of claims 1, 3, 4, 8, 11, 12, 14, 15 and 17-22, 27-29, 31, and 35.

Claim 1 recites "means to determine a temperature difference in the flowing substance upstream and downstream of the heating or cooling element". Claim 21 relates to a method for the characterization of a flowing substance, comprising "determining a temperature difference in the flowing substance upstream and downstream of the heating or cooling element". According to the Examiner, Nukui discloses all the elements of claims 1, 3, 4, 8, 11, 12, 14, 15,17-22, 27-29, 31, and 35, except for "relating temperature differences measured on one or more calibration substances to one or more characterizing features of the flowing substance." However, Applicants respectfully disagree that Nukui teaches all the other elements of claims 1 and 21. In particular, Nukui fails to teach determining a temperature difference in the flowing substance upstream and downstream of a heating or cooling component.

According to the Examiner, Nukui discloses "a temperature difference sensor comprising a first measurement cell/thermostatic chamber 12 downstream of a heating unit and means for determining a temperature difference in the flowing substances upstream and downstream

of the heating element (figure 4; column 5, lines 15-32; column 7, lines 16-21). Applicants respectfully point out that the thermostatic chamber 12 is not a temperature sensor. Rather, the thermostatic chamber 12 is a "heater" that is made of a material of high heat-conductivity, which is capable of maintaining a constant temperature therein. Nukui, Col. 4, ll. 46-48. The thermostatic chamber 12 is "capable of quickly regulating the inner temperature to a constant value. Nukui, Col. 5, ll. 15-19. The thermostatic chamber 12 keeps the fuel gas temperature at the temperature T until the fuel gas flows into the laminar flow-type flow meter 5 through spiral tube 1a. Nukui, Col. 6, ll. 9-13. There simply is no teaching in Nukui that supports the Examiner's assertion that the thermostatic chamber 12 is a temperature difference sensor.

Furthermore, there is no other structure in Nukui that could be construed as a temperature difference sensor. With respect to the Examiner's contention that figure 4; column 5, lines 15-32; column 7, lines 16-21 of Nukui teach means for determining a temperature difference in the flowing substances upstream and downstream of the heating element, Applicants respectfully disagree. Figure 4 shows only one device capable of sensing temperature. In particular the device of figure 4 is provided with a thermometer 11. This thermometer 11 by itself is simply incapable of measuring a temperature difference in a flowing substance. In Nukui, Column 5, lines 15-32 and column 7, lines 16-21, teach that the thermostatic chamber 12 regulates the inner temperature to a constant value, spirally wound tube 1a exchanges heat so as to regulate the temperature of the fuel gas, tube 1a is effective at eliminating undesirable distortion, thermal-type flow controller 8 is integrally composed of a bypass type thermal flowmeter 8a and a control valve 8B for regulating the output pressure of the thermal type flowmeter to a present value, and the measured values of the inflow pressure P1 and the differential pressure delta P are input into a computer unit 10 which calculates the outlet pressure P2 from the input. It is unclear to Applicants how these passages could be construed to teach "means for determining a temperature difference in the flowing substances upstream and downstream of the heating element". Applicants submit that they do not; and, therefore, for at least this reason, Applicants submit that Nukui fails to teach determining a temperature difference in the manner recited in claims 1 and 21. Furthermore, since claims 3, 4, 8, 11, 12, 14, 15 and 17-22, 27-29, 31, and 35 depend from claims 1 or 21, Applicants submit that they to are allowable for at least this reason.

With respect to the Examiner's contention that Breedlove teaches what is admittedly missing form Nukui, namely that Breedlove teaches an evaluation means or evaluating a characterizing feature of the flowing substance in the manner recited in claims 1 and 21, as

pointed out above Breedlove teaches that a characterizing feature, i.e. energy expressed in B.t.u per pound or cubic foot, of an unknown sample gas, can be determined by a function relating energy, and not temperature differences, measured on one or more calibration substances to one or more characterising features of sample gas. See, Breedlove, Col. 4, ln. 74 – Col. 5, ln. 10.

With respect to the Examiner's combination of Nukui with Foster for purposes of teaching an evaluation means or evaluating a characterizing feature of the flowing substance in the manner recited in claims 1 and 21, while Foster does not teach "evaluation means (70) for evaluating a characterising feature of the flowing substance comprising a function relating temperature differences measured on one or more calibration substances to one or more characterising features of the flowing substance" and "comparing the measured temperature difference with corresponding temperature differences measured on one or more calibration substances for evaluating a characterising feature of the flowing substance. Claims 1 and 21 do not recite "calibrate a device with a calibration gas." Accordingly, for at least this reason, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claims 1, 3, 4, 8, 11, 12, 14, 15 and 17-22, 27-29, 31, and 35.

F. Conclusion

Applicants submit that the subject matter of the present application is novel, nonobvious, and useful. Accordingly, Applicants respectfully request that the rejections and objections be withdrawn and that the present application issue as early as possible.

Dated: November 2, 2007

/Michael Pruden/
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